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Truck Crop Production Practices

COLQUITT COUNTY, GEORGIA

Labor, Power
and Materials
by Operation

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Crossley S-D Surveys, Inc., New York, N. Y., prepared the sample, conducted the field interviewing, and tabulated the statistical data under a contract with the U.S. Agricultural Research Service, of which the Farm Economics Division was then a part.

HOW TO USE THE DATA

Different kinds of data are needed for different purposes. Some persons have need for data on average labor, power, and material inputs while others, particularly county agents and farm budgeters, prefer data for usual or typical labor, power, and material inputs. The data in this report are presented in such a way as to satisfy both these needs.

Tables 1 and 2 contain information on the characteristics of farms in the sample. The remaining tables are for specific crops. There are four tables and a chart for each crop. These four sets of tables are not numbered in the usual way but are designated by the letters A, B, C, and D.

The tables lettered A present quantities and costs of materials used and of contract work hired per acre. Cost items included are direct costs only; they do not include charges for such items as land, overhead labor, and capital. Data that present only direct costs are somewhat limited in use. They are applicable in computing costs incurred in connection with crop insurance programs and are useful in partial farm budgeting to compare costs of producing alternative crops when charges for overhead labor, machinery, land, and so on, are the same for either crop and hence need not be taken into account.

These data are not appropriate and would be misleading for use as the sole criteria in judging whether or not a farmer made a profit on a crop or whether he should stay in business, or in making cost comparisons with crops grown in other areas. For these purposes, total costs are required.

Tables designated B present the various operations performed on the crops, the most common size of equipment used, the average number of times the operation was performed, the acreage covered, the man and power inputs per acre, and the total labor and power used per acre. These data do not reflect an accurate picture of operations or inputs on any one farm; they are averages of all operations and inputs.

Tables designated C present usual or typical labor and power inputs by operation. The accompanying charts show the seasonality of the operation by periods.

Tables designated D present for each operation the composition of the work force by major sources of workers.

Data in these tables were obtained from a sample of growers and are subject to sampling error. For some crops, particularly those having limited numbers of observations, large sampling errors are possible. Therefore, these data should be considered as approximations.

Tables A, B, and D are offered for those persons interested in average requirements. However, extension economists, county agents, farm budgeters, and others may have more use for the data on usual or typical situations shown in table C for each crop.

Farm labor placement officials and others concerned with the problem of obtaining and placing workers may find tables B and D and the charts of value in determining the number of workers necessary for each operation, and the period of time during which local seasonal workers and those from other areas will be needed to supplement the regular farm labor force.

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Previous publications in this series of reports on 1959 truck crop production practices covered the following areas:

Publication No.	Area Covered
ARS 43-132	Columbia County, Wis.
ERS-45	Accomack and Northampton Counties, Va.
ERS-79	Broward and Palm Beach Counties, Fla.

Washington, D. C. November 1962

TRUCK CROP PRODUCTION PRACTICES

COLQUITT COUNTY, GEORGIA

Labor, Power, and Materials by Operation

By

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INTRODUCTION

In 1961 U.S. production of truck crops for fresh market and processing occupied 3.5 million acres of cropland. These crops used slightly more than 1 percent of the total cropland. The farm value of truck crops harvested for sale approached $1.2 billion, or an average of $333 per acre harvested.[1]

Although the total acreage of truck crops is small, it is highly concentrated in areas with conditions favorable for production of these crops. The major areas are in California, Florida, Texas, the Eastern Seaboard from Georgia to Long Island, N. Y., the States bordering the Great Lakes, and the Pacific Northwest.

Truck crops in general require intensive labor. These requirements are highly seasonal - with several labor peaks, the highest occurring at harvesttime.

Most truck-crop operations other than land preparation are difficult to mechanize. Thinning and weeding are two preharvest operations still performed largely by hand labor. Harvesting of a majority of truck crops is still predominantly a hand operation. Most of these crops require repetitive pickings, which must be timely, as quality deteriorates very rapidly if the crops are not harvested at the optimum time.

These high labor demands have been difficult to meet particularly during peak periods of weeding, thinning, and harvesting. Most truck-crop areas do not have sufficient local labor available to handle the crops during these periods. This has led many thousands of workers to migrate from one area to another during the peak seasons. In addition, many thousands of foreign workers are imported annually to help satisfy these heavy seasonal labor demands.

Purchased inputs comprise a high proportion of the total inputs in the production of these crops. Most labor is hired. Fertilizer, seed, pesticides, and containers are significant items that are usually purchased. From 1953 to 1961, prices of these inputs increased relative to prices received for truck crops.

To gain further knowledge of some of the inputs involved in production of vegetables, information regarding the 1958-59 crop was obtained from 2,496 vegetable growers in

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[1] U.S. Department of Agriculture Crop Reporting Board. Vegetables - Fresh Market 1961 Annual Summary - Acreage, Production, and Value of Principal Commercial Crops. Vg. 2-2-(61).
U.S. Department of Agriculture Crop Reporting Board. Vegetables - Processing 1961 Annual Summary - Acreage, Production, and Value of Principal Commercial Crops. Vg. 3-2-(61).

12 areas.[2] The areas sampled were the counties of (1) Erie, N. Y., (2) Accomack and Northampton, Va., (3) Colquitt, Ga., (4) Broward and Palm Beach, Fla., (5) Cameron and Hidalgo, Tex., (6) Berrien and Van Buren, Mich., (7) Columbia, Wis., (8) Yakima, Wash., (9) Marion, Oreg., (10) Imperial, Calif., (11) Monterey, Calif., and (12) San Joaquin, Calif.

The areas included in the survey were selected on the basis of importance of seasonal and overall production, diversity of crops grown - both for fresh market and for processing - and number and proportion of farmers harvesting truck crops for sale.[3]

The survey population was defined as all farmers producing truck crops for sale whose farm headquarters were located within the survey area, except those residing outside the county and more than 20 road miles from their headquarters in the survey area. Within the survey area, a randomized area sampling plan was used to obtain the desired number of respondents.

This is the fourth in a group of 12 publications containing information on labor requirements, production practices, and costs involved in the production of truck crops for fresh market and processing. Information in this report was obtained from 125 producers in Colquitt, Ga. The area studied is shown in figure 1.

A separate report covering all 12 areas will give information on the extent to which production of truck crops has become vertically integrated by either ownership or contractual agreements.

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[2] The Crossley S-D Surveys, Inc., under U.S. Department of Agriculture, Agricultural Research Service contract #12-14-100-3826 (43) conducted the field survey and made preliminary tabulations. The author is responsible for the analysis of the data.

[3] Based on data cited in footnote 1 as well as the 1958 annual summaries of the same series; also the U. S. Department of Commerce Census of Agriculture, 1954, v. I and II.

CHARACTERISTICS OF COLQUITT COUNTY, GA.

Georgia is a leading State in the production of truck crops grown for fresh-market use, ranking 8th in harvested acreage and 15th in value of production in 1961. Truck crops are primarily grown as alternative cash crops in rotation with cotton and corn. Since 1954, harvested acreage of truck crops has declined from 107,000 acres to only 59,240 acres in 1961.[4] Production of vegetables for processing is insignificant in Georgia.

Truck crops are generally grown throughout the State, but the major producing counties are in an area bounded by the Flint and Little Rivers and the Georgia-Florida State line (fig. 1). In 1954, about one-third of the $8,900,000 truck-crop production was grown in this area. In 1959, the proportion produced in this area had declined to only 27 percent of the State's $6,800,000 crop.[5]

Colquitt County, located in the center of the major producing area, has experienced highly variable vegetable production from 1954 to 1959. In the earlier year, 1,246 farms harvested vegetables for sale as compared with only 297 such farms in 1959. Acreage of truck crops harvested declined from 8,182 in 1954 to only 2,565 acres in 1959, and value of production decreased from $450,000 to $197,000. Colquitt County was, however, selected as the survey county prior to the 1959 Census enumeration.

Vegetable production in Colquitt County has declined rapidly in the past few years. Truck crops were grown as alternatives to cotton and corn. In 1959, the cotton acreage allotment program was amended to allow additional land to be planted to cotton. Truck crops were greatly reduced in acreage or dropped entirely from the rotation. Wet weather and low vegetable prices at harvesttime further reduced the acreage of truck crops that were harvested in 1959, as many growers abandoned acreage rather than incur additional production expenses of harvesting.

In late 1959, information regarding the 1959 production of truck crops was obtained by interviewing operators of 125 farms. The survey farms represented a 42-percent sample of all farms harvesting truck crops for sale. On the average, these farms had 139 acres of cropland. Vegetables were grown on 12.7 acres, or about 9 percent of the total cropland. Most farms in the area produced only one or two truck crops. Table 1 shows the number of farms by acreage of cropland operated and further indicates the number of truck crops produced per farm. Of the sample farms, 60 percent produced only one truck crop.

This report presents information on the 10 vegetables most widely grown in Colquitt County for the fresh market. The amount of time used per acre to perform an operation on some of these crops appears excessive. For example, on the 7 lima bean plantings plowing required an average of 1.8 hours per acre. Yet, the most commonly used plow was a 2-bottom 14-inch moldboard, which with sufficient power should be able to plow an acre in less than an hour. The high labor and power use on these crops appears to be due primarily to the extremely small size of the plantings. Small plantings use machinery and labor inefficiently as the ratio of turning time to operating time is extremely high. Half of the crops presented in this report had average plantings of less than 3 acres per farm (table 2).

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[4] U. S. Department of Agriculture Crop Reporting Board. Vegetables for Fresh Market--Acreage, Production, and Value, 1954-59, Revised Estimates. Statis. Bul. No. 300. (See also reference cited in footnote 1.)

[5] U. S. Department of Commerce Census of Agriculture, 1959, v. I., pt. 28.

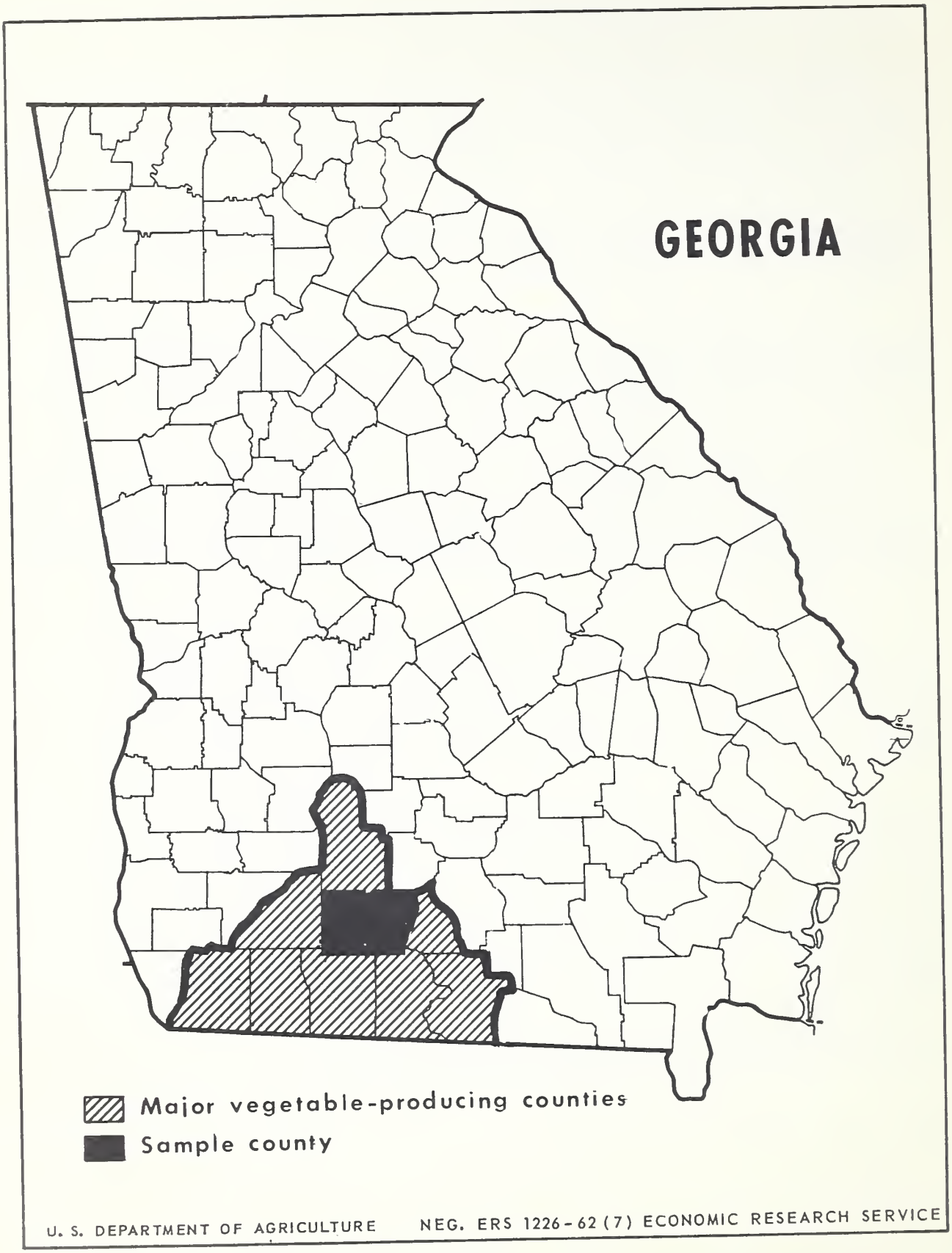
GEORGIA
Major vegetable-producing counties
Sample county
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 1226-62 (7) ECONOMIC RESEARCH SERVICE

Figure 1

Table 1.--Sample farms: Number, average acreage of cropland, and distribution of truck crops produced by farms in each size group, Colquitt County, Ga., 1959

Cropland operated (acres)	Farms in size group	Average acreage of cropland per farm	Distribution of farms by number of crops produced					
			1	2	3	4	5	6
	Number	Acres	Farms	Farms	Farms	Farms	Farms	Farms
Under 30.0----------	12	16.6	3	4	3	0	1	1
30 to 69.9----------	22	48.1	16	5	1	0	0	0
70 to 99.9----------	25	83.3	17	4	3	1	0	0
100 to 139.9---------	20	118.0	12	5	3	0	0	0
140 to 179.9---------	17	154.1	12	5	0	0	0	0
180 to 219.9---------	9	202.2	5	2	1	1	0	0
220 to 259.9---------	9	240.2	5	3	0	0	1	0
260 and over---------	11	462.4	5	3	2	0	1	0
Total or average----------	125	139.1	75	31	13	2	3	1

Table 2.--Truck crops grown for fresh market on 125 farms by acreage harvested, Colquitt County, Ga., 1959

Crop	Farms producing[1]	Acreage harvested	
		Total	Average per farm
	Number	Acres	Acres
Green lima beans----------	7	12.5	1.8
Snap beans, bush----------	12	29.0	2.4
Snap beans, pole----------	16	42.8	2.7
Cabbage----------	18	222.5	12.4
Cantaloups----------	30	116.5	3.9
Peas, black-eyed----------	19	214.0	11.3
Squash----------	15	31.0	2.1
Tomatoes----------	26	69.5	2.7
Turnips----------	10	223.5	22.4
Watermelons----------	29	203.0	7.0
Other[2]----------	---	423.8	---
Total----------	125	1,588.1	12.7

[1] Number of farms producing does not add to the total because many farms produced more than one crop.

[2] Includes 423.8 acres of shell beans, carrots, sweet corn, cucumbers, dry onions, green peas, eggplant, okra, and such greens as collard, kale, and mustard for fresh-market use, and 3.0 acres of cucumbers for pickling.

VEGETABLES FOR FRESH MARKET

Green Lima Beans

Figure 2 and tables A, B, C, and D present data on green lima beans produced for the fresh market on 12.5 acres on 7 farms in 1959. The average yield per acre was 48 bushels.

Tractors were the chief source of power on these farms. Unless otherwise indicated, they were used for the operations listed. The size of tractor was not obtained, but considering the size of equipment used, it appears that these tractors were 1 - and 2-plow tractors with drawbar horsepower ratings of 10 to 20.

Lima bean production on these farms was a family enterprise. With the exception of harvesting, all operations were performed by the operator and his family. Local seasonal workers were employed to assist in the picking. These workers were paid piece rates of from $0.50 to $1.00 per bushel averaging $0.90.

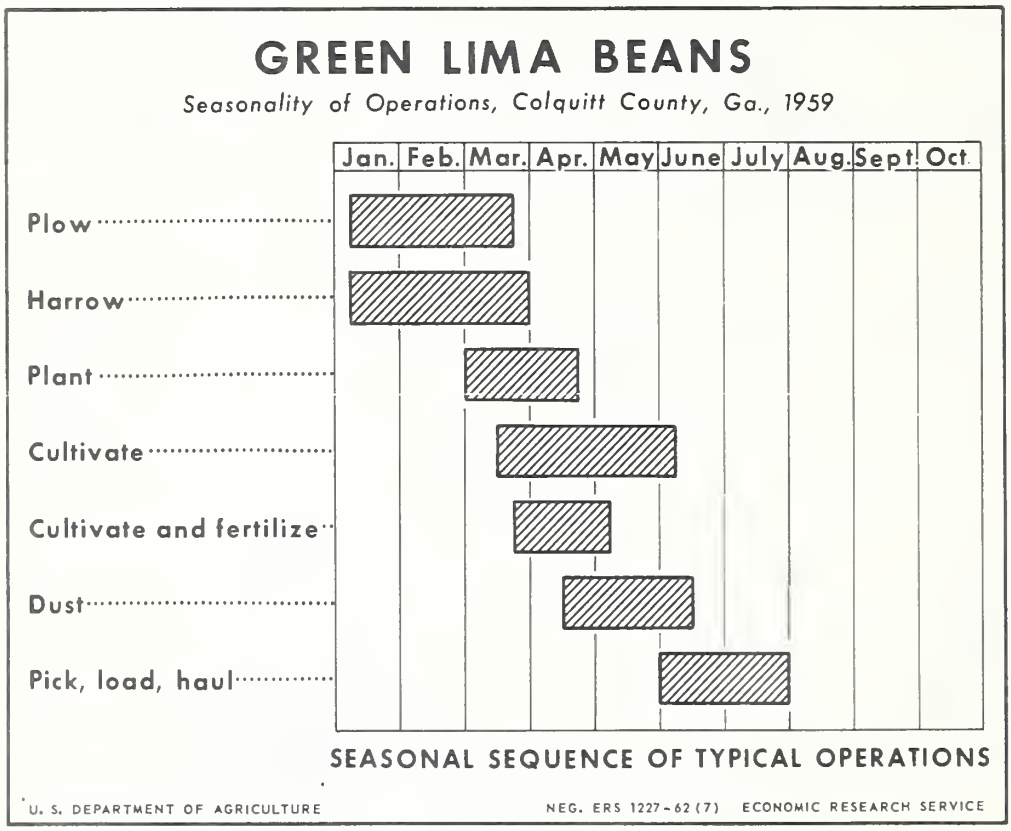

Figure 2

Table A.--Green lima beans: Materials used, averages for 12.5 acres on 7 farms, Colquitt County, Ga., 1959

Materials used	Unit	Units per acre covered	Price per unit	Cost per acre covered	Percentage of total acreage covered	Cost per acre, total acreage
		Number	Dollars	Dollars	Percent	Dollars
Seed	Pound	23.6	0.34	8.02	100	8.02
Fertilizer, 4-12-12	Cwt.	6.2	1.68	10.42	100	10.42
Fertilizer, 33-0-0	Cwt.	1.8	4.00	7.20	88	6.34
Dust	Pound	48	.13	6.24	68	4.24
Hampers	Each	48	.25	12.00	100	12.00
Total	---	---	---	---	---	[1] 41.02

[1] Average yield per acre - 48 bushels. Average cost of materials per bushel - $0.85.

Table B.--Green lima beans: Labor, power, and machinery used in producing and harvesting, averages for 12.5 acres on 7 farms, Colquitt County, Ga., 1959

Operation	Type and size of equipment	Time per acre, once over		Times over, acreage covered	Percentage of total acreage covered	Time per acre, total acreage	
		Man	Power			Man	Power
		Hours	Hours	Number	Percent	Hours	Hours
Preharvest:							
Plow	2-bot. 14-in. moldbd.	1.8	1.8	1.0	100	1.8	1.8
Harrow	5-foot tandem disk	1.7	1.7	2.4	100	4.1	4.1
Mark rows	2-row marker	1.0	1.0	1.0	4	([1])	([1])
Plant	2-row planter	2.6	2.6	1.0	100	2.6	2.6
Cultivate	1-row cultivator	2.1	2.1	2.2	100	4.6	4.6
Cultivate and fertilize	1-row cult./attach.	.6	.6	1.0	68	.4	.4
Dust	6-row duster	.7	.7	2.1	60	.9	.9
Dust (hand)	---	2.0	---	1.0	8	.2	---
Fertilize	2-row sidedresser	2.2	2.1	1.4	20	.6	.6
Total	---	---	---	---	---	15.2	15.0
Harvest:							
Pick and load by hand and haul by truck	Truck	6.7	.6	10.0	100	67.0	6.0
Total, preharvest and harvest	---	---	---	---	---	[2] 82.2	[2] 21.0

[1] Less than 0.05 hour.
[2] Average yield per acre - 48 bushels. Average labor and power used per bushel - 1.7 hours and 0.4 hour, respectively.

Table C.--Green lima beans: Usual labor and power inputs, Colquitt County, Ga., 1959

Operation	Times over	Time per acre, once over		Time per acre, total	
		Man	Power	Man	Power
		Hours	Hours	Hours	Hours
Plow	1	1.8	1.8	1.8	1.8
Harrow	2	1.7	1.7	3.4	3.4
Plant	1	2.6	2.6	2.6	2.6
Cultivate	2	2.1	2.1	4.2	4.2
Cultivate and fertilize	1	.6	.6	.6	.6
Dust	2	.7	.7	1.4	1.4
Pick, load, and haul	10	6.7	.6	67.0	6.0
Total	---	---	---	81.0	20.0

Table D.--Green lima beans: Distribution of workers performing specified operations, by type of worker, 7 farms, Colquitt County, Ga., 1959

Operation	Type of worker		
	Operator and unpaid family	Year-round hired	Local seasonal
	Percent	Percent	Percent
Plow	100	0	0
Harrow	100	0	0
Mark rows	100	0	0
Plant	100	0	0
Cultivate	100	0	0
Cultivate and fertilize	100	0	0
Dust	100	0	0
Dust (hand)	100	0	0
Fertilize	100	0	0
Pick, load, and haul	41	0	59

Snap Beans

Figure 3 and tables A, B, C, and D present data on snap beans produced for the fresh market on 29 acres on 12 farms in 1959. Bean production on these farms averaged 114 bushels per acre.

Tractors were the chief source of power on these farms. Unless otherwise indicated, they were used for the operations listed. The size of tractor was not obtained, but considering the size of equipment used, it appears that the average tractor was a 1- to 2-plow tractor with drawbar horsepower ratings of 10 to 20.

The majority of workers harvesting beans were operators and unpaid members of their families. Local seasonal workers were paid piece rates which ranged from $0.35 to $0.75 per bushel and averaged $0.51.

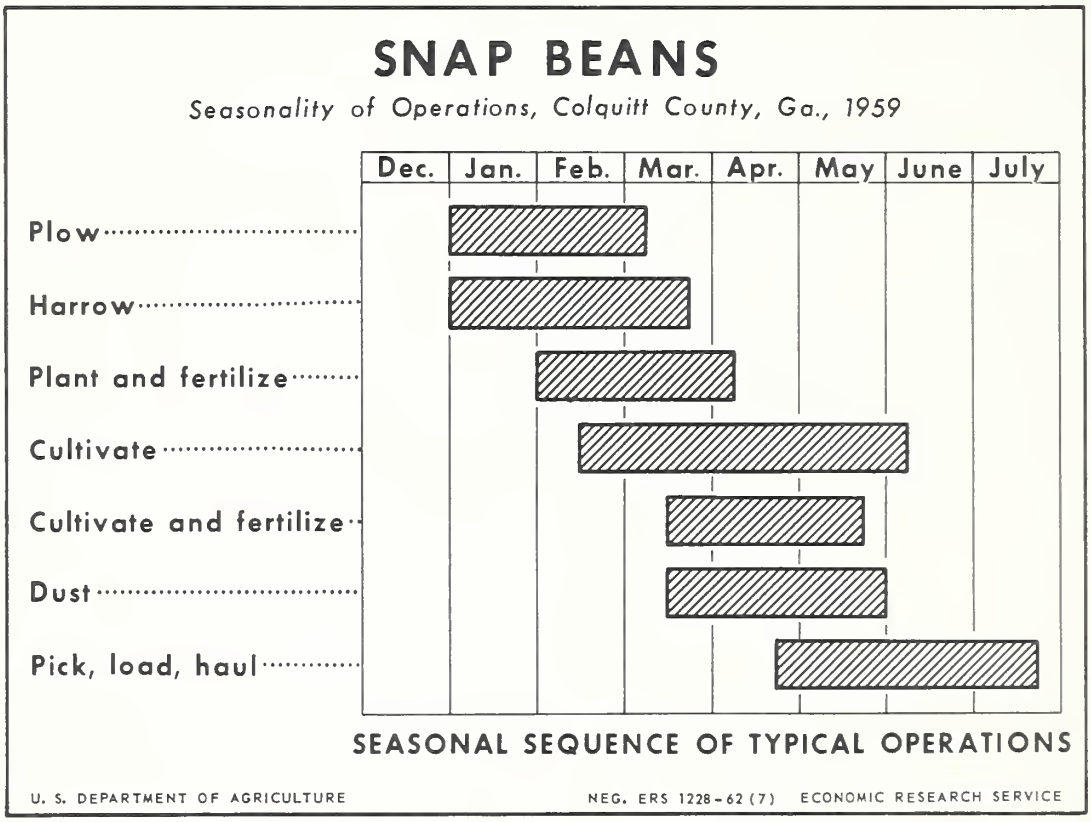

Figure 3

Table A.--Snap beans: Materials used, averages for 29 acres on 12 farms, Colquitt County, Ga., 1959

Materials used	Unit	Units per acre covered	Price per unit	Cost per acre covered	Percentage of total acreage covered	Cost per acre, total acreage
		Number	Dollars	Dollars	Percent	Dollars
Fertilizer, 4-12-12	Cwt.	11.0	2.22	24.42	100	24.42
Fertilizer, 33-0-0	Cwt.	2.8	3.06	8.57	68	5.83
Seed	Pound	27.5	.29	7.98	100	7.98
Hampers	Each	114	.24	27.36	100	27.36
Dust	Pound	25	.12	3.00	90	2.70
Total	---	---	---	---	---	[1] 68.29

[1] Average yield per acre - 114 bushels. Average cost of materials per bushel - $0.60.

Table B.--Snap beans: Labor, power, and machinery used in producing and harvesting, averages for 29 acres on 12 farms, Colquitt County, Ga., 1959

Operation	Type and size of equipment	Time per acre, once over		Times over, acreage covered	Percentage of total acreage covered	Time per acre, total acreage	
		Man	Power			Man	Power
		Hours	Hours	Number	Percent	Hours	Hours
Preharvest:							
Cut Stalks	5-foot rotary mower	1.0	1.0	1.0	21	0.2	0.2
Plow	2-bot. 16-in. moldbd.	1.8	1.8	1.0	66	1.2	1.2
Harrow	5-foot tandem disk	1.6	1.6	1.7	79	2.1	2.1
Plant and fertilize	2-row planter	2.1	2.1	1.0	100	2.1	2.1
Cultivate	2-row cultivator	2.1	2.1	2.4	100	5.0	5.0
Cultivate and fertilize	2-row cult./attach.	1.7	1.7	1.0	68	1.2	1.2
Dust	2-row duster	.8	.8	1.3	90	.9	.9
Total	---	---	---	---	---	12.7	12.7
Harvest:							
Pick and load by hand and haul by truck	Truck	33.1	1.8	3.6	100	119.2	6.5
Total, preharvest and harvest	---	---	---	---	---	[1] 131.9	[1] 19.2

[1] Average yield per acre - 114 bushels. Average labor and power used per bushel - 1.16 hours and 0.17 hour, respectively.

Table C.--Snap beans: Usual labor and power inputs, Colquitt County, Ga., 1959

Operation	Times over	Time per acre, once over		Time per acre, total	
		Man	Power	Man	Power
		Hours	Hours	Hours	Hours
Plow	1	1.8	1.8	1.8	1.8
Harrow	2	1.6	1.6	3.2	3.2
Plant and fertilize	1	2.1	2.1	2.1	2.1
Cultivate	2	2.1	2.1	4.2	4.2
Cultivate and fertilize	1	1.7	1.7	1.7	1.7
Dust	1	.8	.8	.8	.8
Pick, load, and haul	3.6	33.1	1.8	119.2	6.5
Total	---	---	---	133.0	20.3

Table D.--Snap beans: Distribution of workers performing specified operations, by type of worker, 12 farms, Colquitt County, Ga., 1959

Operation	Type of worker		
	Operator and unpaid family	Year-round hired	Local seasonal
	Percent	Percent	Percent
Cut stalks	100	0	0
Plow	89	0	11
Harrow	90	0	10
Plant and fertilize	92	0	8
Cultivate	92	0	8
Cultivate and fertilize	100	0	0
Dust	100	0	0
Pick, load, and haul	58	0	42

Pole Beans

Figure 4 and tables A, B, C, and D present data on pole beans produced for the fresh market on 33.75 acres on 15 farms in 1959. The average yield was 111 bushels per acre.

Tractors were the main source of power on these farms. Unless otherwise indicated, they were used for the operations listed. Drawbar horsepower ratings were not obtained in this survey, but size of equipment used indicates that these tractors were 1- and 2-plow tractors with drawbar horsepower ratings of 10 to 20.

The investment of poles, stakes, wire, and twine used in the production of pole beans is substantial. Growers making such an investment will generally produce beans year after year in an attempt to reduce the cost of investment per bushel harvested. In 1959, only 7 percent of the growers replaced posts, 3 percent stakes, while 36 percent used some new wire.

Harvesting of pole beans was done primarily by local seasonal workers. Piece rates for picking a bushel of beans ranged from $0.25 to $0.75 and averaged $0.39.

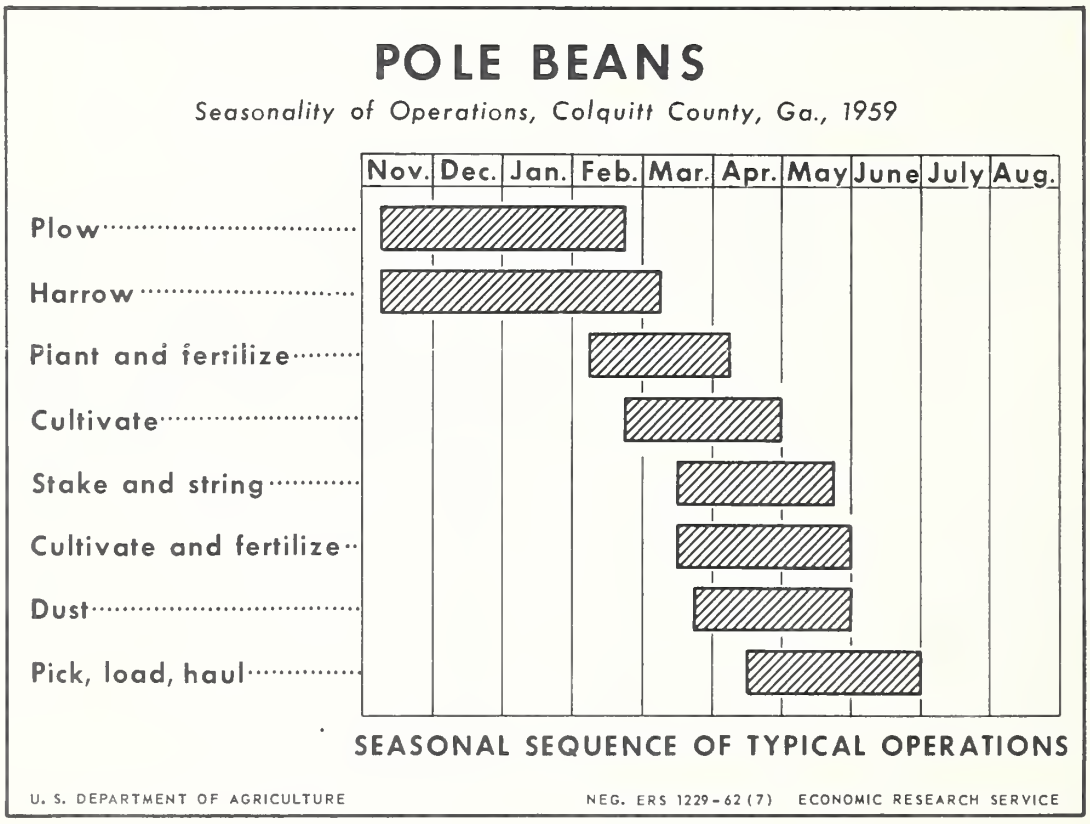

Figure 4

Table A.--Pole beans: Materials used and contract work hired, averages for 33.75 acres on 15 farms, Colquitt County, Ga., 1959

Item	Unit	Units per acre covered	Price per unit	Cost per acre covered	Percentage of total acreage covered	Cost per acre, total acreage
		Number	Dollars	Dollars	Percent	Dollars
Materials used:						
Seed	Pound	31	0.34	10.54	100	10.54
Fertilizer, 4-12-12	Cwt.	10.2	2.13	21.73	100	21.73
Fertilizer, 33-0-0	Cwt.	2.6	3.83	9.96	96	9.56
Dust	Pound	147	.11	16.17	100	16.17
Wire	Pound	76	.21	15.96	36	5.75
Twine	Bag	4	3.11	12.44	96	11.94
Posts	Each	70	.24	16.80	7	1.18
Stakes	Each	200	.03	6.00	3	.18
Nails	Pound	3	.16	.48	4	.02
Baskets, bushel	Each	111	.25	27.75	100	27.75
Total	---	---	---	----	---	104.82
Contract work hired:						
Dust	Acre	3.1	2.00	6.20	27	1.67
Set props and wire	Acre	1.0	3.00	3.00	4	.12
Irrigate	Acre	2.0	10.00	20.00	12	2.40
Total	---	---	---	---	---	4.19
Total, materials and contract work	---	---	---	---	---	[1] 109.01

[1] Average yield per acre - 111 bushels. Average cost of materials and contract work per bushel - $0.98.

Table B.--Pole beans: Labor, power, and machinery used in producing and harvesting, averages for 33.75 acres on 15 farms, Colquitt County, Ga., 1959

Operation	Type and size of equipment	Time per acre, once over		Times over, acreage covered	Percentage of total acreage covered	Time per acre, total acreage	
		Man	Power			Man	Power
		Hours	Hours	Number	Percent	Hours	Hours
Preharvest:							
Cut stalks	5-foot rotary mower	0.7	0.7	1.0	21	0.1	0.1
Plow	2-bot. 16-in. moldbd.	1.1	1.1	1.1	85	1.0	1.0
Plow (horse)	1-bot. 14-in. moldbd.	1.8	3.6	1.0	6	.1	.2
Harrow	6-foot tandem disk	1.0	1.0	2.3	75	1.7	1.7
Make rows (horse)	1-bot. 12-in. moldbd.	1.7	1.7	1.0	14	.2	.2
Fertilize (horse)	1-row distributor	3.2	3.2	1.0	4	.1	.1
Fertilize (hand)	---	2.0	---	1.0	4	.1	---
Plant and fertilize	2-row planter/attach.	1.9	1.9	1.0	92	1.7	1.7
Plant (horse)	2-row planter	2.2	4.4	1.0	8	.2	.4
Cultivate	2-row cultivator	1.3	1.3	2.5	46	1.5	1.5
Cultivate (horse)	1-row cultivator	3.1	3.1	1.2	54	2.0	2.0
Stake and string	---	41.6	---	1.2	100	49.9	---
Hoe and thin	---	11.2	---	1.0	33	3.7	---
Cultivate and fertilize	1-row cult./attach.	.9	.9	1.0	96	.9	.9
Pick up runners	---	5.8	---	3.0	12	2.1	---
Dust	2-row duster	.5	.5	3.6	42	.8	.8
Dust (custom)	2-row duster	.5	.5	3.1	27	.4	.4
Dust (hand)	---	2.4	---	2.4	27	1.6	---
Dust (horse)	2-row duster	2.0	2.0	3.0	4	.2	.2
Irrigate (custom)	Pump	7.0	([1])	2.0	12	1.7	([1])
Irrigate	Pump	8.9	([1])	2.3	24	4.9	([1])
Total	---	---	---	---	---	74.9	11.2
Harvest:							
Pick and load by hand and haul by truck	Truck	30.0	3.0	4.3	100	129.0	12.9
Total, preharvest and harvest	---	---	---	---	---	[2] 203.9	[2] 24.1

[1] Hours of pump operation not obtained.
[2] Average yield per acre - 111 bushels. Average labor and power used per bushel - 1.84 hours, and 0.22 hour, respectively.

Table C.--Pole beans: Usual labor and power inputs, Colquitt County, Ga., 1959

Operation	Times over	Time per acre, once over		Time per acre, total	
		Man	Power	Man	Power
		Hours	Hours	Hours	Hours
Plow	1	1.1	1.1	1.1	1.1
Harrow	2	1.0	1.0	2.0	2.0
Plant and fertilize	1	1.9	1.9	1.9	1.9
Cultivate	2	1.3	1.3	2.6	2.6
Stake and string	1	41.6	---	41.6	---
Cultivate and fertilize	1	.9	.9	.9	.9
Dust	4	.5	.5	2.0	2.0
Pick, load, and haul	4.3	30.0	3.0	129.0	12.9
Total	---	---	---	181.1	23.4

Table D.--Pole beans: Distribution of workers performing specified operations, by type of worker, 15 farms, Colquitt County, Ga., 1959

Operation	Type of worker		
	Operator and unpaid family	Year-round hired	Local seasonal
	Percent	Percent	Percent
Cut stalks	50	50	0
Plow	62	23	15
Plow (horse)	0	0	100
Harrow	58	17	25
Make rows (horse)	100	0	0
Fertilize (horse)	100	0	0
Fertilize (hand)	0	0	100
Plant and fertilize	62	23	15
Plant (horse)	100	0	0
Cultivate	72	14	14
Cultivate (horse)	70	10	20
Stake and string	26	13	61
Hoe and thin	25	0	75
Cultivate and fertilize	34	33	33
Pick up runners	0	0	100
Dust[1]	50	0	50
Dust (hand)	75	0	25
Dust (horse)	100	0	0
Irrigate (custom)	0	0	100
Irrigate	20	0	80
Pick, load, and haul	10	6	84

[1] Excludes custom operations.

Cabbage

Figure 5 and tables A, B, C, and D present data on cabbage produced for the fresh market on 195.5 acres on 17 farms in 1959. The average yield per acre was 9,835 pounds.

Tractors were the main source of power on these farms. Unless otherwise indicated, they were used for the operations listed. Drawbar horsepower ratings were not obtained in this survey, but size of equipment used indicates that the average tractor was about a 2-plow tractor with a drawbar horsepower rating of 15 to 20.

Nearly two-thirds of the cabbage acreage was planted with home-grown plants. In general, operators of the larger acreages grew their own plants.

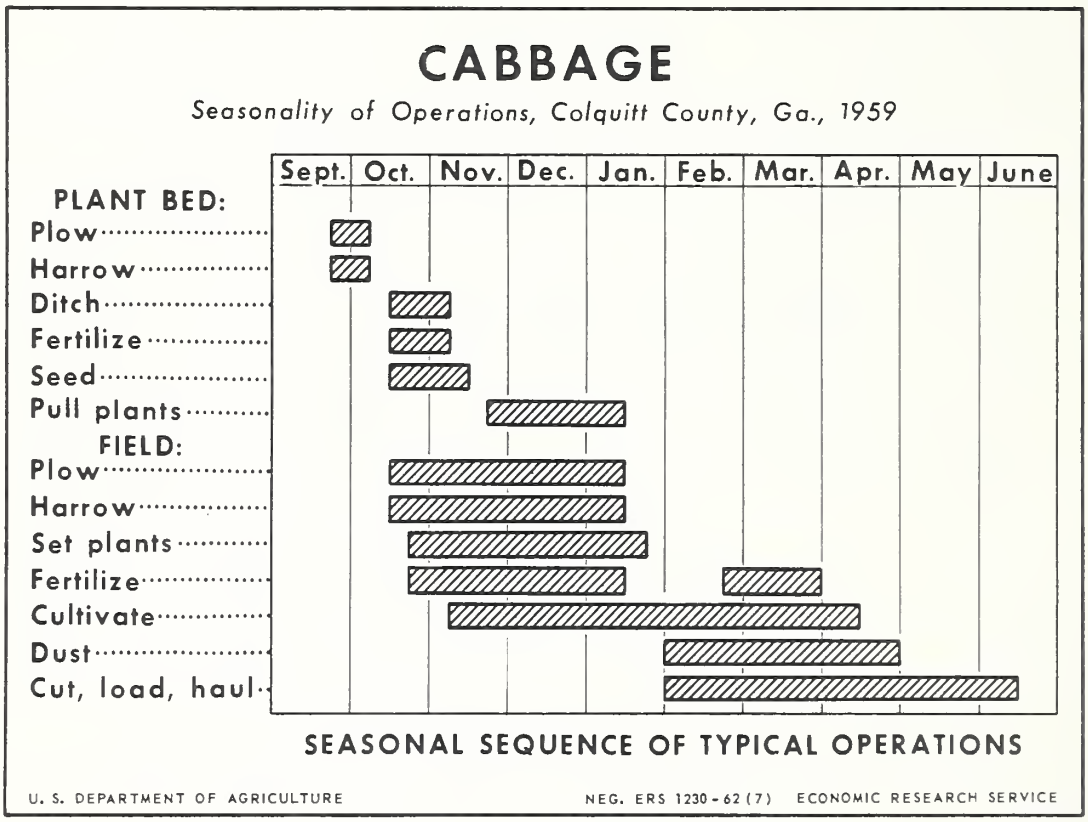

Figure 5

Table A.--Cabbage: Materials used, averages for 195.5 acres on 17 farms, Colquitt County, Ga., 1959

Materials used	Unit	Units per acre covered	Price per unit	Cost per acre covered	Percentage of total acreage covered	Cost per acre, total acreage
		Number	Dollars	Dollars	Percent	Dollars
Fertilizer, 33-0-0	Cwt.	2.3	4.00	9.20	94	8.65
Fertilizer, 4-12-12	Cwt.	9.3	2.28	21.20	100	21.20
Plants	Thousand	10.2	1.29	13.16	38	5.00
Seed	Pound	1.5	2.10	3.15	62	1.95
Dust	Pound	23.6	.09	2.12	74	1.57
Spray	Quart	3.8	.56	2.13	15	.32
Bags	Each	100	.23	23.00	100	23.00
Total	---	---	---	---	---	[1] 61.69

[1] Average yield per acre - 98.4 cwt. Average cost of materials per cwt. - $0.63.

Table B.--Cabbage: Labor, power, and machinery used in producing and harvesting, averages for 195.5 acres on 17 farms, Colquitt County, Ga., 1959

Operation	Type and size of equipment	Time per acre, once over		Times over, acreage covered	Percentage of total acreage covered	Time per acre, total acreage	
		Man	Power			Man	Power
		Hours	Hours	Number	Percent	Hours	Hours
Plantbed (8.1 acres on 9 farms):							
Plow	2-bot. 16-in. moldbd.	1.2	1.2	1.0	100	1.2	1.2
Harrow	8-foot tandem disk	.9	.9	2.3	100	2.1	2.1
Ditch	1-row disk hiller	2.0	2.0	1.0	70	1.4	1.4
Fertilize	2-row cult./attach.	2.5	1.3	1.0	100	2.5	1.3
Sow seed	---	4.0	---	1.0	100	4.0	---
Cover seed	10-foot spiketooth	1.0	1.0	1.0	100	1.0	1.0
Pull plants	---	72.0	---	1.0	100	72.0	---
Total plantbed	---	---	---	---	---	84.2	7.0
Total per acre field cabbage	---	---	---	---	---	5.6	.5
Field (195.5 acres on 17 farms):							
Preharvest:							
Seedbed[1]	---	5.6	.5	1.0	62	3.5	.3
Chop weeds	5-foot rotary mower	.8	.8	1.0	14	.1	.1
Plow	2-bot. 16-in. moldbd.	1.3	1.3	1.2	91	1.4	1.4
Plow (horse)	1-bot. 14-in. moldbd.	2.6	5.2	1.0	4	.1	.2
Harrow	8-foot tandem disk	.7	.7	1.6	88	1.0	1.0
Make rows	2-row middlebuster	1.4	1.4	1.0	12	.2	.2
Make rows (horse)	1-row middlebuster	6.0	12.0	1.0	2	.1	.2
Set plants	2-row transplanter	12.3	2.8	1.0	36	4.4	1.0
Set plants (horse)	1-row transplanter	32.0	16.0	1.0	2	.6	.3
Set plants and reset	---	14.8	---	1.1	62	10.1	---
Fertilize	2-row spreader	1.5	1.2	1.7	84	2.1	1.7
Fertilize (horse)	2-row spreader	8.0	8.0	1.0	3	.2	.2
Fertilize	---	1.7	---	1.0	5	.1	---
Cultivate	2-row cultivator	1.0	1.0	2.7	87	2.3	2.3
Cultivate (horse)	1-row cultivator	4.0	4.0	2.0	1	.1	.1
Cultivate and fertilize	2-row cult./attach.	.9	.8	1.9	24	.4	.4
Irrigate	Pump	2.0	---	5.8	46	5.3	---
Dust	4-row duster	.6	.5	2.7	70	1.1	.9
Dust	---	4.4	---	2.2	4	.4	---
Spray	6-row boom sprayer	.6	.4	4.2	15	.4	.3
Total	---	---	---	---	---	33.9	10.6
Harvest:							
Cut, load, and haul	---	7.3	1.2	5.0	100	36.5	6.0
Total, preharvest and harvest	---	---	---	---	---	[2] 70.4	[2] 16.6

[1] One acre of seedbeed produced plants for 15 acres of cabbage.
[2] Average yield per acre - 98.4 cwt. Average labor and power used per cwt. - 0.72 hour and 0.17 hour, respectively.

Table C.--Cabbage: Usual labor and power inputs, Colquitt County, Ga., 1959

Operation	Times over	Time per acre, once over		Time per acre, total	
		Man	Power	Man	Power
		Hours	Hours	Hours	Hours
Plantbed:					
Plow	1	1.2	1.2	1.2	1.2
Harrow	2	.9	.9	1.8	1.8
Ditch	1	2.0	2.0	2.0	2.0
Fertilize	1	2.5	1.3	2.5	1.3
Sow seed	1	4.0	---	4.0	---
Cover seed	1	1.0	1.0	1.0	1.0
Pull plants	1	72.0	---	72.0	---
Total	---	---	---	84.5	7.3
Field:					
Plantbed[1]	1	3.5	.3	3.5	.3
Plow	1	1.3	1.3	1.3	1.3
Harrow	2	.7	.7	1.4	1.4
Set plants by hand	1	14.8	---	14.8	---
Fertilizer	2	1.5	1.2	3.0	2.4
Cultivate	3	1.0	1.0	3.0	3.0
Dust	3	.6	.5	1.8	1.5
Cut, load, and haul	5	7.3	1.2	36.5	6.0
Total	---	---	---	65.3	15.9

[1] One acre of plantbed produced plants for 15 acres of cabbage.

Table D.--Cabbage: Distribution of workers performing specified operations, by type of worker, 17 farms, Colquitt County, Ga., 1959

Operation	Type of worker		
	Operator and unpaid family	Year-round hired	Local seasonal
	Percent	Percent	Percent
Plantbed operations	10	0	90
Chop weeds	0	100	0
Plow	35	17	48
Harrow	61	8	31
Make rows	50	50	0
Set plants (tractor)	35	17	48
Set plants (horse)	100	0	0
Set plants (hand)	15	0	85
Fertilize	50	0	50
Cultivate	77	8	15
Cultivate and fertilize	67	33	0
Irrigate	0	33	67
Dust	30	0	70
Spray	33	0	67
Cut, load, and haul	18	0	82

Cantaloups

Figure 6 and tables A, B, C, and D present data on cantaloups produced for the fresh market on 116.5 acres on 30 farms in 1959. The average yield per acre was 1,600 cantaloups.

Tractors were the main source of power on these farms. Unless otherwise indicated, they were used for the operations listed. Drawbar horsepower ratings were not obtained in this survey, but size of equipment used indicates that these tractors were 2-plow tractors with drawbar horsepower ratings of 15 to 20.

Hired farm labor was relatively unimportant on preharvest operations. In harvesting cantaloups, the work force contained 47 percent hired workers. While piece rates were not generally reported, $1.50 per 100 cantaloups was the most common rate cited.

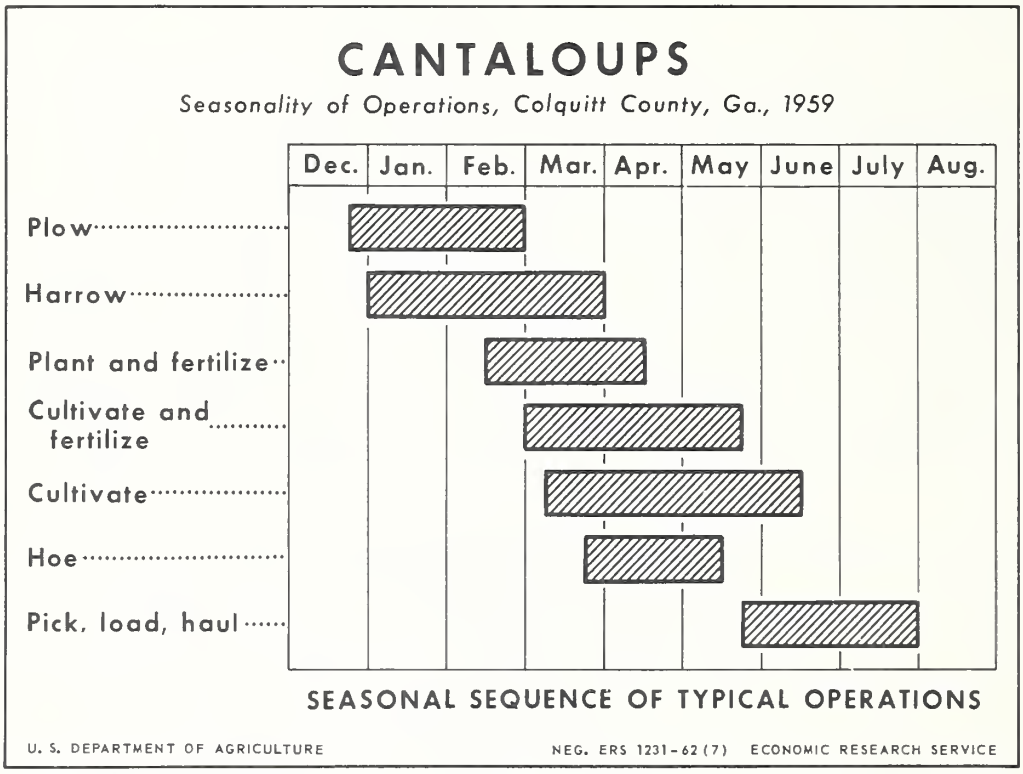

Figure 6

Table A.--Cantaloups: Materials used and contract work hired, averages for 116.5 acres on 30 farms, Colquitt County, Ga., 1959

Item	Unit	Units per acre covered	Price per unit	Cost per acre covered	Percentage of total acreage covered	Cost per acre, total acreage
		Number	Dollars	Dollars	Percent	Dollars
Materials used:						
Fertilizer, 20-0-12	Cwt.	2.7	3.24	8.75	100	8.75
Fertilizer, 4-12-12	Cwt.	8.3	2.09	17.35	100	17.35
Seed	Pound	2.4	1.60	3.84	100	3.84
Dust, zineb	Pound	51.0	.10	5.10	35	1.79
Total	---	---	---	---	---	31.73
Contract work hired:						
Cut stalks, rotary mower	Acre	1.0	1.00	1.00	2	.02
Harvest, truck and crew	Acre	1.0	16.00	16.00	2	.32
Dust, plane only	Acre	1.5	2.00	3.00	19	.57
Total	---	---	---	---	---	.91
Total, materials and contract work	---	---	---	---	---	[1] 32.64

[1] Average yield per acre - 1,600 cantaloups. Average cost of materials and contract work per 100 melons - $2.04, excluding container costs.

Table B.--Cantaloups: Labor, power, and machinery used in producing and harvesting, averages for 116.5 acres on 30 farms, Colquitt County, Ga., 1959

Operation	Type and size of equipment	Time per acre, once over		Times over, acreage covered	Percentage of total acreage covered	Time per acre, total acreage	
		Man	Power			Man	Power
		Hours	Hours	Number	Percent	Hours	Hours
Preharvest:							
Cut stalks	6-foot rotary mower	0.9	0.9	1.0	32	0.3	0.3
Cut stalks (custom)	6-foot rotary mower	.8	.8	1.0	2	([1])	([1])
Plow	2-bot. 16-in. moldbd.	1.1	1.1	1.0	84	.9	.9
Harrow	7-foot tandem	1.1	1.1	2.0	74	1.6	1.6
Plant and fertilize	2-row planter	2.0	1.7	1.0	75	1.5	1.3
Make rows and fertilize	2-row lister/attach.	1.6	1.6	1.0	22	.4	.4
Make rows and fertilize (horse)	1-row lister/attach.	4.0	8.0	1.0	3	.1	.2
Plant	2-row planter	1.5	1.5	1.0	22	.3	.3
Plant (horse)	1-row planter	2.7	2.7	1.0	3	.1	.1
Cultivate and fertilize	2-row cult./attach.	1.8	1.5	1.1	96	1.9	1.6
Cultivate	2-row cultivator	1.7	1.7	2.8	80	3.8	3.8
Cultivate (horse)	1-row cultivator	4.0	4.0	1.0	17	.7	.7
Weed	1-row rod weeder	1.2	1.2	1.0	4	([1])	([1])
Hoe and thin	---	17.7	---	1.0	24	4.2	---
Hoe	---	17.4	---	1.2	42	8.8	---
Dust	4-row duster	.5	.5	1.4	14	.1	.1
Dust (hand)	---	2.0	---	2.0	2	.1	---
Dust	Plane	.1	.1	2.0	19	([1])	([1])
Fertilize (hand)	---	4.0	---	1.0	4	.2	---
Thin	---	4.0	---	1.0	2	.1	---
Total	---	---	---	---	---	25.1	11.3
Harvest:							
Pick and load by hand and haul by truck	1-ton truck	7.0	1.6	4.3	98	29.5	6.7
Pick and load by hand and haul by truck (custom)	1-ton truck	8.0	1.8	2.0	2	.3	.1
Total	---	---	---	---	---	29.8	6.8
Total, preharvest and harvest	---	---	---	---	---	[2] 54.9	[2] 18.1

[1] Less than 0.05 hour.

[2] Average yield per acre - 1,600 cantaloups. Average labor and power used per 100 melons - 3.43 hours and 1.13 hours, respectively.

Table C.--Cantaloups: Usual labor and power inputs, Colquitt County, Ga., 1959

Operation	Times over	Time per acre, once over		Time per acre,	
		Man	Power	Man	Power
		Hours	Hours	Hours	Hours
Plow	1	1.1	1.1	1.1	1.1
Harrow	2	1.1	1.1	2.2	2.2
Plant and fertilize	1	2.0	1.7	2.0	1.7
Cultivate and fertilize	1	1.8	1.5	1.8	1.5
Cultivate	3	1.7	1.7	5.1	5.1
Hoe	1	17.4	---	17.4	---
Pick, load, and haul	4	7.0	1.6	28.0	6.4
Total	---	---	---	57.6	14.6

Table D.--Cantaloups: Distribution of workers performing specified operations, by type of worker, 30 farms, Colquitt County, Ga., 1959

Operation	Type of worker		
	Operator and unpaid family	Year-round hired	Local seasonal
	Percent	Percent	Percent
Cut stalks (custom)	0	0	100
Cut stalks	100	0	0
Plow	100	0	0
Harrow	100	0	0
Plant and fertilize	96	0	4
Make rows and fertilize	100	0	0
Make rows and fertilize (horse)	100	0	0
Plant	100	0	0
Plant (horse)	100	0	0
Cultivate and fertilize	90	0	10
Cultivate	100	0	0
Cultivate (horse)	75	0	25
Weed	100	0	0
Hoe and thin	29	0	71
Hoe	24	0	76
Dust	50	0	50
Dust (hand)	100	0	0
Dust (plane)	0	0	100
Fertilize (hand)	100	0	0
Thin	100	0	0
Pick, load, and haul	53	2	45
Pick, load, and haul (custom)	0	0	100

Black-Eyed Peas

Figure 7 and Tables A, B, C, and D present data on black-eyed peas produced for the fresh market on 214 acres on 19 farms in 1959. The average yield per acre was 71 bushels.

Tractors were the chief source of power on these farms. Unless otherwise indicated, they were used for the operations listed. Drawbar horsepower ratings were not obtained in this survey, but size of equipment used indicates that the average tractor was about a 2-plow tractor with a drawbar horsepower rating of 15 to 20.

While black-eyed peas are harvested almost continually from May through October, the main production is harvested in the May-August period (fig. 7).

About three-fourths of the workers picking peas were local seasonal workers. The average rate of payment was $0.35 per bushel and ranged from $0.25 to $0.50.

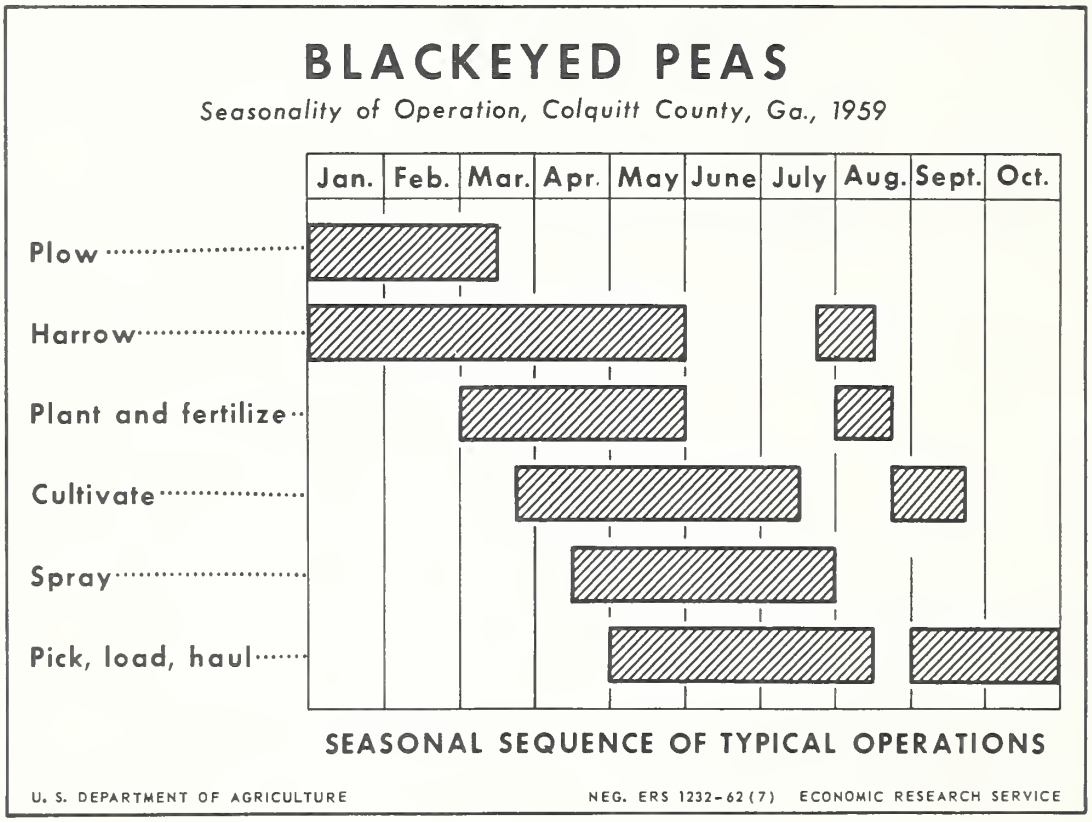

Figure 7

Table A.--Black-eyed peas: Materials used, averages for 214 acres on 19 farms, Colquitt County, Ga., 1959

Materials used	Unit	Units per acre covered	Price per unit	Cost per acre covered	Percentage of total acreage covered	Cost per acre, total acreage
		Number	Dollars	Dollars	Percent	Dollars
Fertilizer, 33-0-0	Cwt.	1.6	4.02	6.43	9	0.58
Fertilizer, 4-12-12	Cwt.	2.8	2.11	5.91	91	5.38
Seed	Pound	14.4	.32	4.61	100	4.61
Dust, DDT	Pound	21	.11	2.31	11	.25
Spray, malathion	Quart	2.7	1.23	3.32	69	2.29
Hampers, bushel	Each	71	.21	14.91	100	14.91
Total	---	---	---	---	---	[1] 28.02

[1] Average yield per acre - 71 bushels. Average cost of materials per bushel - $0.39.

Table B.--Black-eyed peas: Labor, power, and machinery used in producing and harvesting, averages for 214 acres on 19 farms, Colquitt County, Ga., 1959

Operation	Type and size of equipment	Time per acre, once over		Times over, acreage covered	Percentage of total acreage covered	Time per acre, total acreage	
		Man	Power			Man	Power
		Hours	Hours	Number	Percent	Hours	Hours
Preharvest:							
Chop weeds	5-foot rotary	1.3	1.3	1.0	15	0.2	0.2
Plow	3-bot. 16-in. moldbd.	1.0	1.0	1.4	63	.9	.9
Harrow	6-foot tandem	1.1	1.1	1.5	95	1.6	1.6
Plant and fertilize	2-row planter	1.6	1.3	1.0	98	1.6	1.3
Plant (horse)	1-row planter	4.7	9.4	1.0	2	.1	.2
Cultivate	2-row cultivator	1.0	1.0	3.6	98	3.5	3.5
Cultivate and fertilize	2-row cult./attach.	1.7	1.7	1.0	5	.1	.1
Cultivate and fertilize (horse)	1-row cult./attach.	4.3	4.3	2.6	2	.2	.2
Fertilize	2-row drill	2.0	2.0	1.7	4	.1	.1
Weed (horse)	1-row rod weeder	4.0	4.0	1.0	1	([1])	([1])
Hoe	---	4.7	---	1.5	1	.1	---
Dust	4-row duster	.9	.9	2.0	10	.2	.2
Dust (hand)	---	6.7	---	2.0	1	.1	---
Spray	8-row sprayer	.4	.3	2.7	68	.7	.6
Spray (horse)	2-row sprayer	2.0	4.0	4.0	1	.1	.2
Total	---	---	---	---	---	9.5	9.1
Harvest:							
Pick by hand	---	6.4	---	4.6	100	29.4	---
Load by hand and haul	Truck	2.0	2.0	4.6	100	9.2	9.2
Total	---	---	---	---	---	38.6	9.2
Total preharvest and harvest	---	---	---	---	---	[1] 48.1	[1] 18.3

[1] Average yield per acre - 71 bushels. Average labor and power used per bushel - 0.68 hour and 0.26 hour, respectively.

Table C.--Black-eyed peas: Usual labor and power inputs, Colquitt County, Ga., 1959

Operation	Times over	Time per acre, once over		Time per acre, total	
		Man	Power	Man	Power
		Hours	Hours	Hours	Hours
Plow	1	1.0	1.0	1.0	1.0
Harrow	2	1.1	1.1	2.2	2.2
Plant and fertilize	1	1.6	1.3	1.6	1.3
Cultivate	4	1.0	1.0	4.0	4.0
Spray	3	.4	.3	1.2	.9
Harvest and haul	4.6	8.4	2.0	38.6	9.2
Total	---	---	---	48.6	18.6

Table D.--Black-eyed peas: Distribution of workers performing specified operations, by type of worker, 19 farms, Colquitt County, Ga., 1959

Operation	Type of worker		
	Operator and unpaid family	Year-round hired	Local seasonal
	Percent	Percent	Percent
Chop weeds	67	0	33
Plow	83	0	17
Harrow	72	6	22
Plant and fertilize	71	5	24
Plant (horse)	100	0	0
Cultivate	80	4	16
Cultivate and fertilize	100	0	0
Hoe	100	0	0
Fertilize	100	0	0
Dust	100	0	0
Spray	25	0	75
Harvest and haul	22	4	74

Summer Squash

Figure 8 and tables A, B, C, and D present data on summer squash (yellow-straight and crookedneck) produced for the fresh market on 26 acres on 14 farms in 1959. The average yield was 85 bushels per acre. Squash are harvested from May through October with the main periods of production in May-June and September-October (fig. 8). About two-thirds of the acreage was harvested in the spring.

Tractors were the chief source of power on these farms. Unless otherwise indicated, they were used for the operations listed. The size of tractor was not obtained, but considering the size of equipment used, it appears that the average tractor was about a 1-plow tractor with a drawbar horsepower rating of less than 15.

Labor and power inputs per acre of squash were considerably higher than for other crops in the area having similar operations. Several farmers had less than one acre of squash each and used considerably more time per acre in working these small plots. Size of equipment used was smaller than that used on other crops, and some of it was horsedrawn.

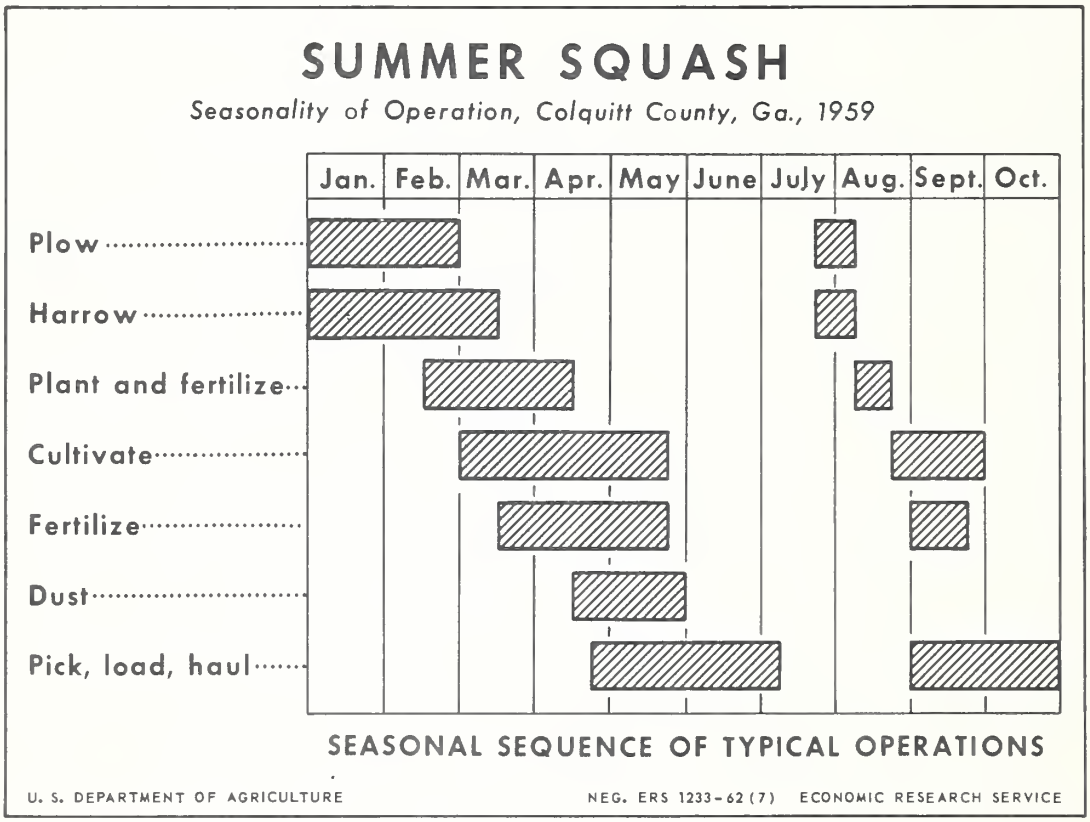

Figure 8

Table A.--Summer squash: Materials used, averages for 26 acres on 14 farms, Colquitt County, Ga., 1959

Materials used	Unit	Units per acre covered	Price per unit	Cost per acre covered	Percentage of total acreage covered	Cost per acre, total acreage
		Number	Dollars	Dollars	Percent	Dollars
Seed	Pound	2.7	1.45	3.92	100	3.92
Fertilizer, 4-12-12	Cwt.	8.5	2.04	17.34	100	17.34
Fertilizer, 21-0-0	Cwt.	1.8	3.09	5.56	100	5.56
Dust	Pound	14.9	.10	1.49	65	.97
Hampers, bushel	Each	85	.23	19.55	100	19.55
Total	---	---	---	---	---	[1] 47.34

[1] Average yield per acre - 85 bushels. Average cost of materials per bushel - $0.56.

Table B.--Summer squash: Labor, power, and machinery used in producing and harvesting, averages for 26 acres on 14 farms, Colquitt County, Ga., 1959

Operation	Type and size of equipment	Time per acre, once over		Times over, acreage covered	Percentage of total acreage covered	Time per acre, total acreage	
		Man	Power			Man	Power
		Hours	Hours	Number	Percent	Hours	Hours
Preharvest:							
Cut stalks	6-foot rotary mower	0.5	0.5	1.0	25	0.1	0.1
Cut stalks (horse)	5-foot mower	1.0	1.0	1.0	8	.1	.1
Plow	1-bot. 14-in. moldbd.	2.5	2.5	1.0	78	2.0	2.0
Plow (horse)	1-bot. 10-in. moldbd.	7.2	7.2	1.0	10	.7	.7
Harrow	6-ft. single disk	1.2	1.2	1.9	84	1.9	1.9
Harrow (horse)	5-ft. single disk	2.2	4.4	2.0	8	.4	.7
Float	6-ft. single disk/drag	1.0	1.0	1.0	2	([1])	([1])
Make rows (horse)	1-row sweep cult.	3.0	3.0	1.0	2	.1	.1
Plant and fertilize	1-row planter	2.2	2.2	1.0	79	1.7	1.7
Plant and fertilize (horse)	1-row planter	3.7	3.7	1.0	14	.5	.5
Plant and fertilize (hand)	---	16.0	---	1.0	2	.3	---
List, fertilize, and plant	1-row lister/seeder	3.3	3.3	1.0	5	.2	.2
Cultivate	1-row sweep cult.	2.9	2.9	2.7	85	6.7	6.7
Cultivate (horse)	1-row sweep cult.	3.4	3.4	2.6	23	2.0	2.0
Fertilize	1-row distributor	4.5	2.1	1.1	44	2.2	1.0
Fertilize (horse)	1-row distributor	5.0	5.0	1.0	8	.4	.4
Cultivate and fertilize	1-row cult./attach.	2.1	2.1	1.0	40	.8	.8
Cultivate and fertilize (horse)	1-row cult./attach.	6.7	6.7	1.0	8	.5	.5
Hoe	---	20.2	---	1.0	19	3.8	---
Dust	4-row duster	1.1	1.1	1.0	61	.7	.7
Dust (hand)	---	5.0	---	2.0	4	.4	---
Total	---	---	---	---	---	25.5	20.1
Harvest:							
Pick and load by hand and haul by truck	Truck	13.3	2.2	3.8	100	50.5	8.4
Total, preharvest and harvest	---	---	---	---	---	[2] 76.0	[2] 28.5

[1] Less than 0.05 hour.

[2] Average yield per acre - 85 bushels. Average labor and power used per bushel - 0.89 hour and 0.34 hour, respectively.

Table C.--Summer squash: Usual labor and power inputs, Colquitt County, Ga., 1959

Operation	Times over	Time per acre, once over		Time per acre, total	
		Man	Power	Man	Power
		Hours	Hours	Hours	Hours
Plow	1	2.5	2.5	2.5	2.5
Harrow	2	1.2	1.2	2.4	2.4
Plant and fertilize	1	2.2	2.2	2.2	2.2
Cultivate	3	2.9	2.9	8.7	8.7
Fertilize	1	4.5	2.1	4.5	2.1
Dust	1	1.1	1.1	1.1	1.1
Pick, load, and haul	4	13.3	2.2	53.2	8.8
Total	---	---	---	74.6	27.8

Table D.--Summer squash: Distribution of workers performing specified operations, by type of worker, 14 farms, Colquitt County, Ga., 1959

Operation	Type of worker		
	Operator and unpaid family	Year-round hired	Local seasonal
	Percent	Percent	Percent
Cut stalks	100	0	0
Cut stalks (horse)	0	0	100
Plow	88	0	12
Plow (horse)	0	50	50
Harrow	88	0	12
Harrow (horse)	0	0	100
Make rows (horse)	100	0	0
Plant and fertilize	90	0	10
Plant and fertilize (horse)	50	0	50
Plant and fertilize (hand)	100	0	0
List, plant and fertilize	100	0	0
Cultivate	90	0	10
Cultivate (horse)	75	0	25
Fertilize	100	0	0
Fertilize (horse)	100	0	0
Cultivate and fertilize	100	0	0
Cultivate and fertilize (horse)	100	0	0
Hoe	58	0	42
Dust	100	0	0
Dust (hand)	100	0	0
Pick, load, and haul	50	0	50

Tomatoes

Figure 9 and tables A, B, C, and D present data on tomatoes produced for the fresh market on 57.5 acres on 25 farms in 1959. The average yield per acre was 210 bushels.

Tractors were the chief source of power on these farms. Unless otherwise indicated, they were used for the operations listed. While size of tractor was not obtained in this survey, the size of equipment used indicates that operations were performed with 1- and 2-plow tractors having drawbar horsepower ratings of 10 to 20.

Tomato acreage per farm averaged only 2.3 acres. These small plantings were largely maintained by the operator and his family. Even during the harvesting period, the farm family made up more than two-thirds of the work force. No piece rates were reported by growers hiring workers for picking.

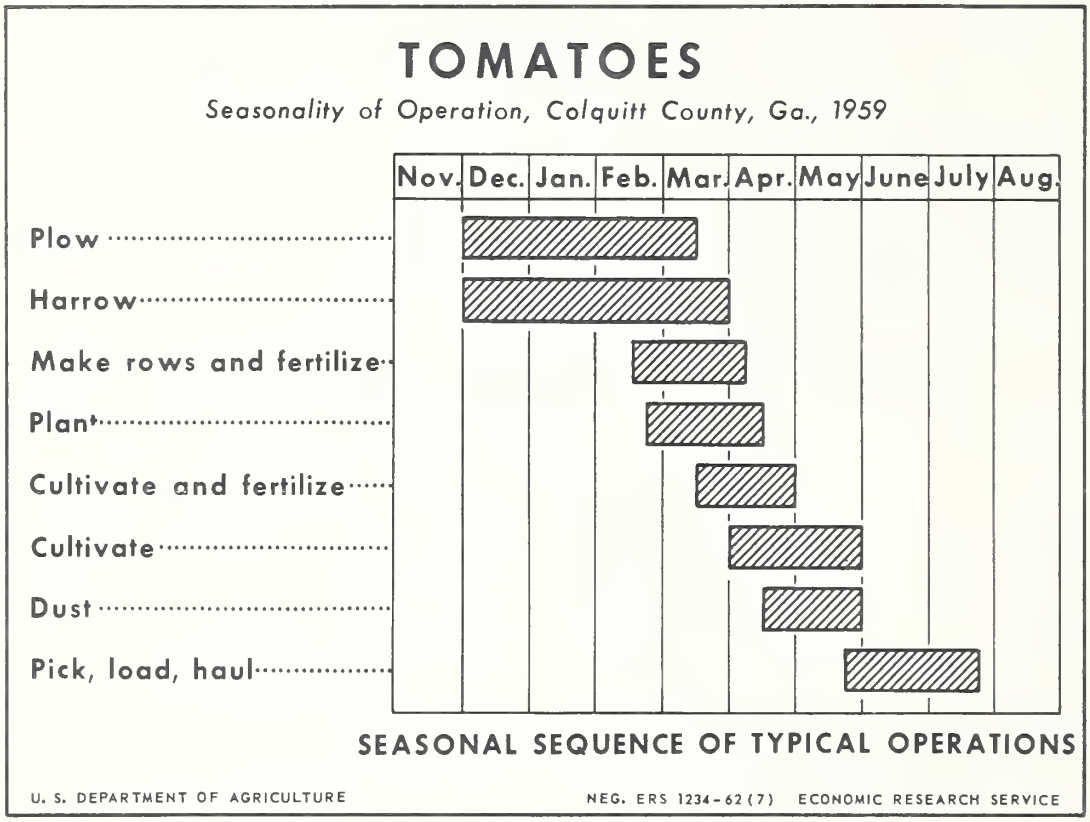

Figure 9

Table A.--Tomatoes: Materials used and contract work hired, averages for 57.5 acres on 25 farms, Colquitt County, Ga., 1959

Item	Unit	Units per acre covered	Price per unit	Cost per acre covered	Percentage of total acreage covered	Cost per acre, total acreage
		Number	Dollars	Dollars	Percent	Dollars
Materials used:						
Fertilizer, 4-11-12	Cwt.	10.5	2.08	21.84	100	21.84
Fertilizer, 7-5-15	Cwt.	4.3	2.43	10.45	90	9.40
Plants	Thousand	3.8	3.81	14.48	100	14.48
Dust	Pound	40.2	.12	4.82	91	4.39
Spray	Quart	3.2	.81	2.59	8	.21
Crates	Each	2.10	.32	67.20	100	67.20
Total	---	---	---	---	---	117.52
Contract work hired:						
Spray, sprayer and materials	Acre	1	7.00	7.00	4	.28
Total, materials and contract work	---	---	---	---	---	[1] 117.80

[1] Average yield per acre - 210 bushels. Average cost of materials and contract work per bushel - $0.56.

Table B.--Tomatoes: Labor, power, and machinery used in producing and harvesting, averages for 57.5 acres on 25 farms, Colquitt County, Ga., 1959

Operation	Type and size of equipment	Time per acre, once over		Times over, acreage covered	Percentage of total acreage covered	Time per acre, total acreage	
		Man	Power			Man	Power
		Hours	Hours	Number	Percent	Hours	Hours
Preharvest:							
Chop weeds	5-foot rotary mower	1.2	1.2	1.0	41	0.5	0.5
Plow	2-bot. 16-in. moldbd.	1.6	1.6	1.1	92	1.6	1.6
Harrow	8-foot disk	1.4	1.4	2.1	76	2.2	2.2
Make rows and fertilize	1-row lister/attach.	2.0	2.0	1.0	87	1.7	1.7
Make rows and fertilize (horse)	1-row lister/attach.	2.7	5.2	1.5	13	.5	1.0
Fertilize	1-row spreader	2.9	2.9	1.4	26	1.1	1.1
Fertilize (horse)	2-row spreader	2.5	5.0	1.0	4	.1	.2
Plant	1-row transplanter	6.8	2.5	1.0	65	4.4	1.6
Plant (hand)	---	14.4	---	1.0	35	5.0	---
Cultivate and fertilize	2-row cult./attach.	1.5	1.5	1.1	85	1.4	1.4
Cultivate and fertilize (horse)	1-row cult./attach.	2.3	4.6	2.3	5	.3	.5
Cultivate	2-row cultivator	1.9	1.9	2.2	77	3.2	3.2
Cultivate (horse)	1-row cultivator	2.1	4.2	3.0	10	.6	1.3
Spray	4-row boom sprayer	.6	.6	2.0	4	([1])	([1])
Spray (hand)	---	3.2	---	1.0	4	.1	---
Spray (custom)	4-row sprayer	.6	.6	1.0	4	([1])	([1])
Dust	4-row duster	.9	.9	2.1	50	.9	.9
Dust (hand)	---	3.3	---	2.2	22	1.6	---
Hoe	---	11.7	---	1.0	16	1.9	---
Total	---	---	---	---	---	27.1	17.2
Harvest:							
Pick	---	11.3	---	6.7	100	75.7	---
Grade	---	2.1	---	21.2	9	4.0	---
Grade and pack	---	14.4	---	3.0	4	1.7	---
Load and haul	Truck	2.0	2.0	6.7	90	12.1	12.1
Load and haul (horse)	Wagon	2.5	5.0	10.5	10	2.6	5.2
Total	---	---	---	---	---	96.1	17.3
Total, preharvest and harvest	---	---	---	---	---	[2] 123.2	[2] 34.5

[1] Less than 0.05 hour.
[2] Average yield per acre - 210 bushels. Average labor and power used per bushel - 0.59 hour and 0.16 hour, respectively.

Table C.--Tomatoes: Usual labor and power inputs, Colquitt County, Ga., 1959

Operation	Times over	Time per acre, once over		Time per acre, total	
		Man	Power	Man	Power
		Hours	Hours	Hours	Hours
Plow	1	1.6	1.6	1.6	1.6
Harrow	2	1.4	1.4	2.8	2.8
Make rows and fertilize	1	2.0	2.0	2.0	2.0
Plant	1	6.8	2.5	6.8	2.5
Cultivate and fertilize	1	1.5	1.5	1.5	1.5
Cultivate	2	1.9	1.9	3.8	3.8
Dust	2	.9	.9	1.8	1.8
Pick	6.7	11.3	---	75.7	---
Load and haul	6.7	2.0	2.0	13.4	13.4
Total	---	---	---	109.4	29.4

Table D.--Tomatoes: Distribution of workers performing specified operations, by type of worker, 25 farms, Colquitt County, Ga., 1959

Operation	Type of worker		
	Operator and unpaid family	Year-round hired	Local seasonal
	Percent	Percent	Percent
Chop weeds	60	20	20
Plow	91	4	5
Harrow	90	5	5
Make rows and fertilize	90	5	5
Make rows and fertilize (horse)	100	0	0
Fertilize	100	0	0
Fertilize (horse)	100	0	0
Plant	71	7	22
Plant (hand)	76	0	24
Cultivate and fertilize	95	5	0
Cultivate and fertilize (horse)	100	0	0
Cultivate	90	5	5
Cultivate (horse)	100	0	0
Spray	100	0	0
Spray (hand)	100	0	0
Dust	70	10	20
Dust (hand)	80	10	10
Hoe	64	18	18
Pick	62	0	38
Grade	100	0	0
Grade and pack	100	0	0
Load and haul	50	0	50
Load and haul (horse)	100	0	0

Turnips

Figure 10 and tables A, B, C, and D present data on bunched turnips for fresh market on 176.5 acres on 9 farms in 1959. The average yield was 210 dozen bunches per acre.

Tractors were the chief source of power on these farms. Unless otherwise indicated, they were used for the operations listed. Drawbar horsepower ratings were not obtained in this survey, but size of equipment used indicates that the average tractor was about a 2-plow tractor with a drawbar horsepower rating of 15 to 20.

Piece rates for harvesting turnips ranged from $0.15 to $0.20 per dozen bunches and averaged $0.17.

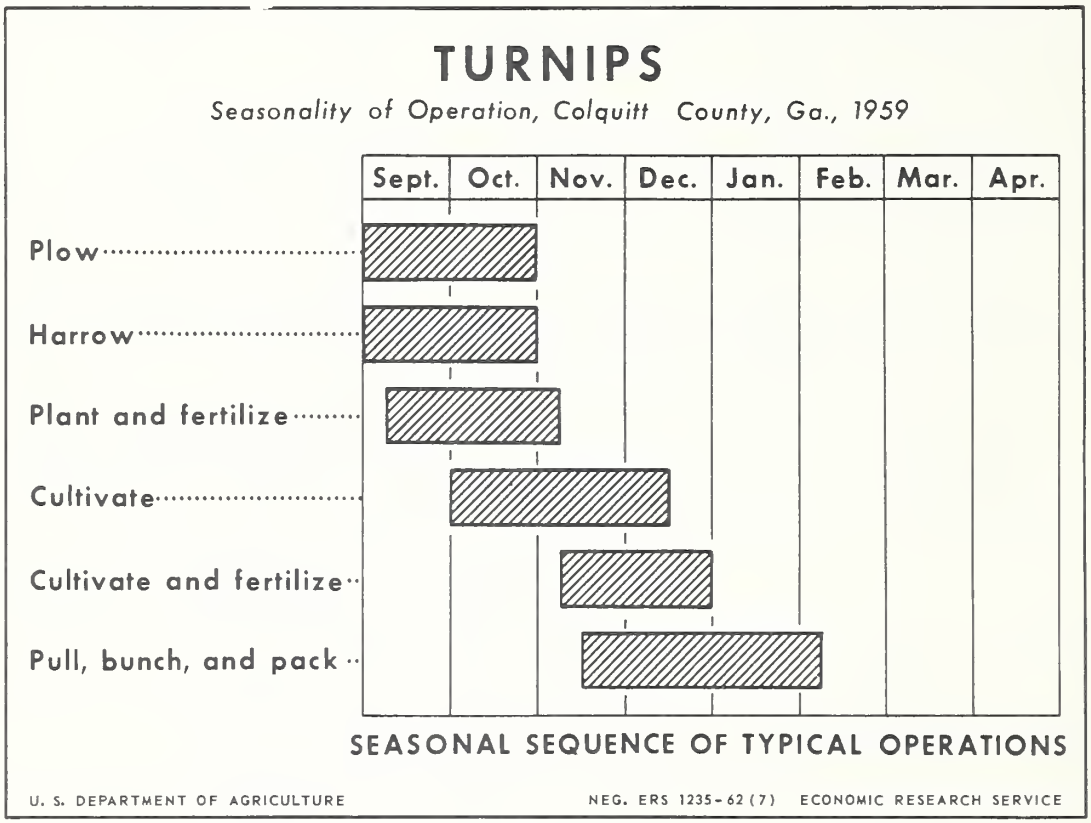

Figure 10

Table A.--Turnips: Materials used and contract work hired, averages for 176.5 acres on 9 farms, Colquitt County, Ga., 1959

Item	Unit	Units per acre covered	Price per unit	Cost per acre covered	Percentage of total acreage covered	Cost per acre, total acreage
		Number	Dollars	Dollars	Percent	Dollars
Materials used:						
Fertilizer, 5-10-15	Cwt.	10.5	2.59	27.20	100	27.20
Fertilizer, 28-0-0	Cwt.	2.5	2.94	7.35	69	5.07
Seed	Pound	5.3	.66	3.50	100	3.50
Dust	Pound	20	.11	2.20	15	.33
Hampers, bushel	Each	87	.30	26.10	20	5.22
Rubber bands	Pound	1.2	.82	.98	80	.78
Ice	Cwt.	6	.50	3.00	15	.45
Twine	Ball	4	1.35	5.40	10	.54
Total	---	---	---	---	---	43.09
Contract work hired:						
Load and haul, includes hampers	Hamper	89	.28	24.92	10	2.49
Total, materials and contract work	---	---	---	---	---	[1] 45.58

[1] Average yield per acre - 210 dozen bunches. Average cost of material and contract work per dozen bunches - $0.22.

Table B.--Turnips: Labor, power, and machinery used in producing and harvesting, averages for 176.5 acres on 9 farms, Colquitt County, Ga., 1959

Operation	Type and size of equipment	Time per acre, once over		Times over, acreage covered	Percentage of total acreage covered	Time per acre, total acreage	
		Man	Power			Man	Power
		Hours	Hours	Number	Percent	Hours	Hours
Preharvest:							
Cut stalks	6-foot rotary mower	0.5	0.5	1.0	47	0.2	0.2
Plow	2-bot. 16-in. moldbd.	1.1	1.1	1.0	100	1.1	1.1
Harrow	6-foot tandem disk	1.2	1.2	1.7	100	2.0	2.0
Plant and fertilize	2-row seeder	3.3	1.0	1.0	94	3.1	.9
Fertilize and make rows	2-row lister/attach.	.9	.9	1.0	6	.1	.1
Plant (hand)	---	17.6	---	1.0	6	1.1	---
Cultivate	2-row cultivator	.7	.7	2.2	85	1.3	1.3
Cultivate and fertilize	2-row cult./attach.	.9	.9	1.6	60	.9	.9
Cultivate and fertilize (hand)	---	11.6	---	1.7	9	1.8	---
Dust	6-row duster	.6	.6	1.0	10	.1	.1
Total	---	---	---	---	---	11.7	6.6
Harvest:							
Pull, bunch, and pack by hand	---	16.0	1.5	3.1	100	49.6	4.6
Pack in ice (hand)	---	1.0	---	3.1	15	.5	---
Load and haul (custom)	Truck	4.0	1.0	4.0	10	1.6	.4
Total	---	---	---	---	---	51.7	5.0
Total, preharvest and harvest	---	---	---	---	---	[1] 63.4	[1] 11.6

[1] Average yield per acre - 210 dozen bunches. Average labor and power per dozen bunches - 0.30 hour and 0.06 hour, respectively.

Table C.--Turnips: Usual labor and power inputs, Colquitt County, Ga., 1959

Operation	Times over	Time per acre, once over		Time per acre, total	
		Man	Power	Man	Power
		Hours	Hours	Hours	Hours
Plow	1	1.1	1.1	1.1	1.1
Harrow	2	1.2	1.2	2.4	2.4
Plant and fertilize	1	3.3	1.0	3.3	1.0
Cultivate	2	.7	.7	1.4	1.4
Cultivate and fertilize	2	.9	.9	1.8	1.8
Pull, bunch, and pack	3	16.0	1.5	48.0	4.5
Total	---	---	---	58.0	12.2

Table D.--Turnips: Distribution of workers performing specified operations, by type of worker, 9 farms, Colquitt County, Ga., 1959

Operation	Type of worker		
	Operator and unpaid family	Year-round hired	Local seasonal
	Percent	Percent	Percent
Cut stalks	75	25	0
Plow	55	18	27
Harrow	55	18	27
Plant and fertilize	27	20	53
Fertilize and make rows	100	0	0
Plant by hand	100	0	0
Cultivate	50	25	25
Cultivate and fertilize	60	40	0
Cultivate and fertilize (hand)	33	67	0
Dust	100	0	0
Pull, bunch, and pack	28	0	72
Pack with ice	100	0	0

Watermelons

Figure 11 and tables A, B, C, and D present data on watermelons produced for the fresh market on 203 acres on 29 farms in 1959. The average yield per acre was 532 melons, or about 133 cwt.

Tractors were the chief source of power on these farms. Unless otherwise indicated, they were used for the operations listed. Drawbar horsepower ratings were not obtained in this survey, but size of equipment used indicates that the average tractor was about a 2-plow tractor with a drawbar horsepower rating of 15 to 20.

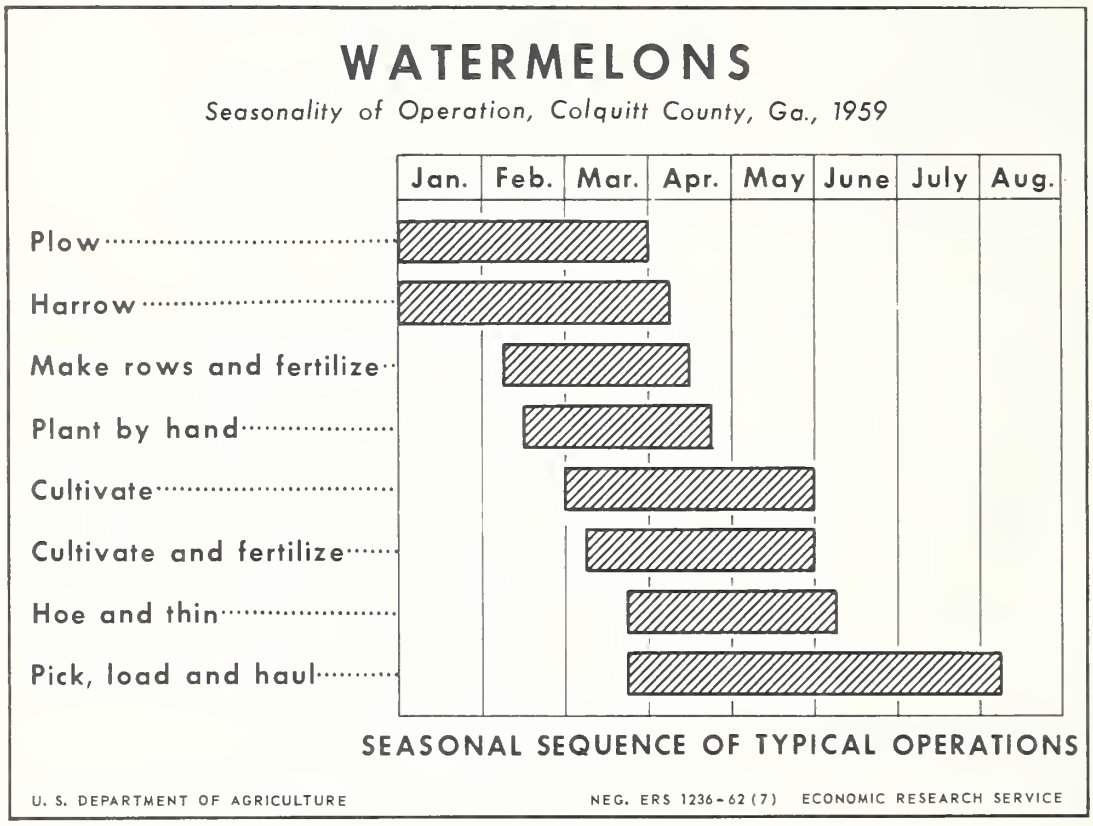

Figure 11

Table A.--Watermelons: Materials used and contract work hired, averages for 203 acres on 29 farms, Colquitt County, Ga., 1959

Item	Unit	Units per acre covered	Price per unit	Cost per acre covered	Percentage of total acreage covered	Cost per acre, total acreage
Materials used:		Number	Dollars	Dollars	Percent	Dollars
Seed	Pound	1.14	2.15	2.45	100	2.45
Fertilizer, 4-12-12	Cwt.	9.8	2.03	19.89	100	19.89
Fertilizer, 33-0-0	Cwt.	1.6	3.30	5.28	67	3.54
Dust	Pound	25	.12	3.00	20	.60
Total	---	---	---	---	---	26.48
Contract work hired:						
Applying dust, plane	Acre	1	2.00	2.00	20	.40
Truck hauling	Acre	1	7.00	6.00	2	.12
Total	---	---	---	---	---	.52
Total, materials and contract work	---	---	---	---	---	[1] 27.00

[1] Average yield per acre - 133 cwt. Average cost of material and contract work per cwt. - $0.20.

Table B.--Watermelons: Labor, power, and machinery used in producing and harvesting, averages for 203 acres on 29 farms, Colquitt County, Ga., 1959

Operation	Type and size of equipment	Time per acre, once over		Times over, acreage covered	Percentage of total acreage covered	Time per acre, total acreage	
		Man	Power			Man	Power
		Hours	Hours	Number	Percent	Hours	Hours
Preharvest:							
Mow weeds	5-foot rotary mower	0.8	0.8	1.0	12	0.1	0.1
Plow	2-bot. 14-in. moldbd.	1.3	1.3	1.1	64	.9	.9
Plow (horse)	1-bot. 14-in. moldbd.	2.3	4.6	1.0	2	([1])	.1
Harrow	8-foot tandem disk	.8	.8	1.6	68	.9	.9
Harrow (horse)	5-foot single disk	2.3	4.6	1.0	2	([1])	.1
Make rows	16-in. disk hiller	.3	.3	1.0	29	.1	.1
Make rows (horse)	12-in. disk hiller	2.7	5.4	2.0	2	.1	.2
Make rows and fertilize	16-in. disk hiller/attach.	.5	.5	1.0	31	.2	.2
Make rows and plant	16-in. disk hiller/seeder	.3	.3	1.0	20	.1	.1
Fertilize	10-foot distributor	1.2	1.2	1.4	36	.6	.6
Fertilize (horse)	8-foot distributor	2.4	4.8	1.5	3	.1	.2
Plant	1-row seeder	1.4	1.4	1.0	18	.3	.3
Plant (horse)	1-row seeder	1.8	1.8	1.0	4	.1	.1
Plant (hand)	---	3.6	---	1.0	58	2.1	---
Cultivate	6-foot tandem disk	1.1	1.1	2.5	87	2.4	2.4
Cultivate (horse)	10-in. moldbd. plow	3.6	3.6	2.9	13	1.4	1.4
Hoe and thin (hand)	---	5.4	---	1.0	78	4.2	---
Cultivate and fertilize	1-row cult./attach.	1.0	1.0	1.1	65	.7	.7
Cultivate and fertilize (horse)	1-row cult./attach.	1.3	2.6	1.0	2	([1])	.1
Dust (plane)	Plane	([1])	([1])	1.0	20	([1])	([1])
Turn vines by hand	---	1.8	---	1.3	40	.9	---
Total	---	---	---	---	---	15.2	8.5
Harvest:							
Pick and load by hand and haul by truck	Truck	6.2	1.1	5.8	100	36.0	6.4
Total, preharvest and harvest	---	---	---	---	---	[2] 51.2	[2] 14.9

[1] Less than 0.05 hour.
[2] Average yield per acre - 133 cwt. Average labor and power used per cwt. - 0.38 hour and 0.11 hour, respectively.

Table C.--Watermelons: Usual labor and power inputs, Colquitt County, Ga., 1959

Operation	Times over	Time per acre, once over		Time per acre, total	
		Man	Power	Man	Power
		Hours	Hours	Hours	Hours
Plow	1	1.3	1.3	1.3	1.3
Harrow	2	.8	.8	1.6	1.6
Make rows and fertilize	1	.5	.5	.5	.5
Plant by hand	1	3.6	---	3.6	---
Cultivate	2	1.1	1.1	2.2	2.2
Cultivate and fertilize	1	1.0	1.0	1.0	1.0
Hoe and thin	1	5.4	---	5.4	---
Pick, load, and haul	5.8	6.2	1.1	36.0	6.4
Total	---	---	---	51.6	13.0

Table D.--Watermelons: Distribution of workers performing specified operations, by type of worker, 29 farms, Colquitt County, Ga., 1959

Operation	Type of worker		
	Operator and unpaid family	Year-round hired	Local seasonal
	Percent	Percent	Percent
Mow weeds	80	0	20
Plow	83	0	17
Harrow	76	0	24
Make rows	100	0	0
Make rows and fertilize	85	0	15
Make rows and plant	100	0	0
Fertilize	80	0	20
Plant	78	0	22
Plant by hand	64	0	36
Cultivate	86	0	14
Cultivate (horse)	71	0	29
Hoe and thin	25	0	75
Cultivate and fertilize	83	0	17
Dust	0	0	100
Turn vines	67	0	33
Pick, load, and haul	41	0	59